

STATUS OF THE CLAIMS

Claim 1 (currently amended)

1. (Twice Amended) An imaging device, comprising:  
a convex mirror for reflecting incident light representing an object, the convex mirror having a shape of solid of revolution;  
an imaging mechanism for taking an image represented by reflected light from the convex mirror; and  
an optical member for guiding the incident light toward the convex mirror and guiding the reflected light toward the imaging mechanism, the optical member being in contact with and holding both of the convex mirror and the imaging mechanism disposed on the opposite side to the convex mirror with the optical member interposed therebetween,  
wherein the optical member holds both of the convex mirror and the imaging device without using a separate housing.

Claims 2-5 (original)

2. An imaging device according to claim 1, wherein the optical member has a concave portion which is in close-contact with the convex mirror so as to cover the convex mirror.
3. An imaging device according to claim 2, wherein the convex mirror is formed of a thin layer of a material having a mirror-surface effect, the thin layer being provided on the concave portion.
4. An imaging device according to claim 1, wherein the convex mirror is formed of a metal material.

5. An imaging device according to claim 1, wherein the convex mirror is formed of aluminum.

Claim 6 (previously amended)

6. (Amended) An imaging device according to claim 1, wherein the optical member has a plane for releasing the reflected light, and the plane has a flat surface or a curved surface projecting towards the convex mirror.

Claims 7-20 (original)

7. An imaging device according to claim 1, wherein the imaging mechanism includes a lens for converging the reflected light, and an imaging section for taking an image represented by the reflected light converged by the lens; and the lens is integrally formed with the optical member.

8. An imaging device according to claim 1, wherein the imaging mechanism includes a lens for converging the reflected light, and an imaging section for taking an image represented by the reflected light converged by the lens; and the lens is in close-contact with the optical member.

9. An imaging device according to claim 8, wherein the optical member has a refractive index which is smaller than the refractive index of the lens.

10. An imaging device according to claim 1, wherein the optical member has an outer circumferential surface formed so as to cause the incident light to be incident thereon in a direction normal to the outer circumferential surface.

11. An imaging device according to claim 1, wherein the optical member has a reflected light releasing face formed so as to cause the reflected light directed toward the imaging mechanism to be incident thereon in a direction normal to the reflected light releasing face.

12. An imaging device according to claim 11, wherein the reflected light releasing face is a part of a surface of a circle having, as the center, a focal point at which the reflected light is converged.

13. A method for producing an imaging device according to claim 1, the method comprising the steps of:

causing the optical member to be in close-contact with the convex mirror so that the optical member covers the convex mirror; and

attaching the imaging mechanism to the optical member so that the reflected light is incident on the imaging mechanism.

14. An imaging device, comprising:

a convex mirror for reflecting incident light representing an object, the convex mirror having a shape of solid of revolution;

an imaging mechanism for taking an image represented by reflected light from the convex mirror, the imaging mechanism including a lens for converging the reflected light and an imaging section for taking an image represented by the reflected light converged by the lens, wherein the lens is integrally formed with the optical member; and

an optical member for guiding the incident light toward the convex mirror and guiding the reflected light toward the imaging mechanism, the optical member being in close-contact with the convex mirror.

15. An imaging device according to claim 14, wherein the optical member has a concave portion which is in close-contact with the convex mirror so as to cover the convex mirror.

16. An imaging device according to claim 15, wherein the convex mirror is formed of a thin layer of a material having a mirror-surface effect, the thin layer being provided on the concave portion.

17. An imaging device according to claim 14, wherein the imaging mechanism includes a lens for converging the reflected light, and an imaging section for taking an image represented by the reflected light converged by the lens; and the lens is in close-contact with the optical member.

18. An imaging device according to claim 17, wherein the optical member has a refractive index which is smaller than the refractive index of the lens.

19. An imaging device according to claim 14, wherein the optical member has an outer circumferential surface formed so as to cause the incident light to be incident thereon in a direction normal to the outer circumferential surface.

20. An imaging device according to claim 14, wherein the optical member has a reflected light releasing face formed so as to cause the reflected light directed toward the imaging mechanism to be incident thereon in a direction normal to the reflected light releasing face.

Claims 21- 30 (newly added)

21. (New) An imaging device, comprising:

a convex mirror for reflecting incident light representing an object, the convex mirror having a shape of solid of revolution;

an imaging mechanism for taking an image represented by reflected light from the convex mirror,

an optical member for guiding the incident light toward the convex mirror and guiding the reflected light toward the imaging mechanism, the optical member being in contact with and holding both of the convex mirror and the imaging mechanism disposed on the opposite side to the convex mirror with the optical member interposed therebetween,

wherein the imaging mechanism further comprises an imaging section that has a diameter that is smaller than a diameter of a reflected light releasing face of the optical member.

22. (New) An imaging device according to claim 21, wherein the optical member has a concave portion which is in close-contact with the convex mirror so as to cover the convex mirror.

23. (New) An imaging device according to claim 22, wherein the convex mirror is formed of a thin layer of a material having a mirror-surface effect, the thin layer being provided on the concave portion.

24. (New) An imaging device according to claim 21, wherein the optical member has a plane for releasing the reflected light, and the plane has a flat surface or a curved surface projecting towards the convex mirror.

25. (New) An imaging device according to claim 21, wherein the imaging mechanism includes a lens for converging the reflected light, and an imaging section for taking an image represented by the reflected light converged by the lens; and the lens is integrally formed with the optical member.

26. (New) An imaging device according to claim 21, wherein the imaging mechanism includes a lens for converging the reflected light, and an imaging section for taking an image represented by the reflected light converged by the lens; and the lens is in close-contact with the optical member.

27. (New) An imaging device according to claim 26, wherein the optical member has a refractive index which is smaller than the refractive index of the lens.

28. (New) An imaging device according to claim 21, wherein the optical member has an outer circumferential surface formed so as to cause the incident light to be incident thereon in a direction normal to the outer circumferential surface.

29. (New) An imaging device according to claim 21, wherein the optical member has a reflected light releasing face formed so as to cause the reflected light directed toward the imaging mechanism to be incident thereon in a direction normal to the reflected light releasing face.

30. (New) An imaging device according to claim 29 wherein the reflected light releasing face is a part of a surface of a circle having, as the center, a focal point at which the reflected light is converged.